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**United States Patent** [19]  
**O'Neill**

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[54] **BONE HARVESTING METHOD AND APPARATUS**

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#### OTHER PUBLICATIONS

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[21] **Appl. No.:** **09/221,240**

BioMedical Enterprises, Inc.: "Bone and Marrow Collection System" Promotional Literature.

[22] **Filed:** **Dec. 28, 1998**

#### Related U.S. Application Data

[60] **Provisional application No.** 60/082,340, Apr. 20, 1998.

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[51] **Int. Cl.** <sup>6</sup> ..... **A61B 5/00**

#### [57] ABSTRACT

[52] **U.S. Cl.** ..... **600/567; 606/179**

[58] **Field of Search** ..... **600/566, 567; 606/179, 170; 604/164**

An apparatus and method for harvesting bone using a manual, cylindrical, multi-directional coring device with a guided delivery system that can be inserted through a percutaneous or closed approach to extract precisely measured amounts of bone or bone marrow. A series of guide wires, obturators, dilators and cannulas are used as the exposure and delivery instrumentation for a cutting tool. The cutting tool has a tip with six cutting edges for cutting in all directions.

#### [56] References Cited

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**15 Claims, 6 Drawing Sheets**

